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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,478	06/14/2001	Geoffrey Howard Blackham	GJ-223J	7893

7590 07/23/2003
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260 Bear Hill Road
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EXAMINER

LIU, MING HUN

ART UNIT	PAPER NUMBER
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2697

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/881,478

Applicant(s)

BLACKHAM ET AL.

Examiner

Ming-Hun Liu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected on the basis of being a single means claim. A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983). When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an

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international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 2 and 4-7 are rejected under 35 U.S.C. 102(e) as being unpatentable by US patent 6,356,664 to Dunn et al.

In reference to claim 1, Dunn discloses an apparatus comprising frame store demultiplexing means (column 6, lines 37-40 and lines 53-55) for creating a specific area of interest which has a higher frame rate than a surrounding area (column 6, lines 59-62 and column 7, lines 25-31).

In reference to claim 2, Dunn also discloses a tracker means for use with the frame store demultiplexing means (column 6, line 40-42).

In reference to claim 4, Dunn discloses that the tracker means is for tracking the specific area of interest (column 6, line 40-45).

In reference to claims 5 and 6, Dunn describes a high speed video switcher for use with the frame store demultiplexing means in order to create the specific area of interest and selects data at sub-frame level from image sources that may update at different but synchronous rates (column 6, lines 37-40 and lines 53-55).

Referring to claim 7, Dunn clearly discloses a display apparatus incorporated with his invention (column 6, lines 18-21).

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Dunn and US patent 6,424,343 to Deering et al.

In reference to claim 3, Deering describes a head slaved tracker means in his invention (column 5, 22-25), however he does not use the frame store method. As seen from Deering's disclosure in the specifications, for realistic graphical interpretation apparatus, such as the one described, it is well known in the art that the details of the graphics can be adjusted according to the user's point of view (column 4, lines 52-66). Such graphical adjustments can be made on a pixel-based algorithm (used by Deering), or a frame-based algorithm (column 2, lines 59-61). One would have incorporate Dunn's invention with Deering's inventions as Dunn's invention solves the very problem that Deering is presented with. It would have been obvious to one skilled in the art to implement frame store demultiplexing with Deering's system since it allows for better resolution of the graphics in specific areas of interest (point of foveation) and conserve power in less important graphical areas such as the periphery.

In reference to claim 8, Dunn never specified the exact type of display apparatus that can be used. However, it is extremely conventional in the art to use large array apparatuses as display elements, especially for high-resolution graphics. It would have been obvious to one skilled in the art to use a large array display because of its thin layer feature and high-resolution

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graphical qualities. Also as suggested by Deering on column 8, line 14-16, for high resolution simulation purposes array type displays can be used.

3. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Dunn and US patent 5,320,534 to Thomas et al.

Referring to claim 9, Thomas disclosed a flight simulating apparatus that implemented higher resolution graphics in areas of interest than is surrounding (column 2, lines 38-48). As mentioned before, Dunn's invention was set out to accomplish the same feat. It would have been to one skilled in the obvious to incorporate Dunn's methods because it provides the necessary resolution means that a high resolution virtual simulator requires.

In reference to claim 10, Thomas discloses that his apparatus will be used for flight and driving simulations (column 1, line 22 and column 6, line 63). Although Thomas never explicitly stated that his invention would be used for air traffic control simulation, it would have been obvious to one skilled in the art to use the simulator for air traffic control training due to the extreme danger and cost associated with the discipline. Implementing a simulator to train individuals in air traffic control can eliminate all of those concerns.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 6,222,675 to Mall et al.: Simulator with area of interest focus resolution

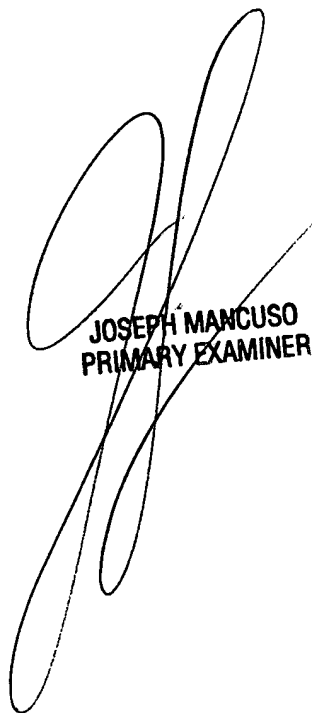
US Patent 5,881,299 to Nomura et al. Different frame rates in different display areas.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is 703-305-8488. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on 703-305-3885. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Ming-Hun Liu
July 11, 2003


JOSEPH MANCUSO
PRIMARY EXAMINER